National Institute of Environmental Health Sciences

Urban and rural temperature trends in proximity to large US cities: 1951-2000

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Abstract:

This paper presents a study of urban and rural temperature trends in proximity to the most populous metropolitan areas of the US. As data from urban meteorological stations are typically eliminated or adjusted for use in continental and global analyses of climate change, few studies have addressed how temperatures are changing in the areas most vulnerable to the public health impacts of warming: large cities. In this study, temperature data from urban and proximate rural stations for 50 large US metropolitan areas are analysed to establish the mean decadal rate of change in urban temperatures, rural temperatures, and heat island intensity over five decades. The results of this analysis find the mean decadal rate of change in the heat island intensity of large US cities between 1951 and 2000 to be 0.05 degrees C and further show a clear division in temperature trends between cities situated in the northeastern and southern regions of the country. Copyright (C) 2007 Royal Meteorological Society.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Temperature

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

Rural, Urban

Geographic Location:

resource focuses on specific location

United States

Health Impact:

specification of health effect or disease related to climate change exposure

Health Outcome Unspecified

Resource Type:

format or standard characteristic of resource

Research Article

Timescale:

time period studied

Time Scale Unspecified